

Remarks

Currently pending in the application are claims 40-72. Claims 40 and 68 have been amended to recite a distance between the transmissive layer and device layer. Support for the amendment can be found at, for example, paragraph [0086] of the present application. Claims 41 and 70 have also been amended to recite a thickness of the insulating layer. Support for the amendment can be found at, for example, paragraph [0090] of the present application. Finally, claim 51 has been amended to include an ending period. No new matter has been added. In view of the above amendments and following remarks, applicants respectfully request reconsideration by the Examiner, and advancement of the application to allowance.

Claim Objections

The Examiner objected to claim 51 on the basis that an ending period is missing. Applicants have amended claim 51 to include an ending period and request this objection be withdrawn.

35 U.S.C. § 102(e)

The Examiner rejected claims 40-54, 56, 60-65, 68, 69, 70 and 72 under 35 U.S.C. § 102(e) as being anticipated by Smith (2003/0038327).

Smith discloses a MEMS device having a sensor or actuator device mechanism micro-machined in a silicon wafer. Smith further discloses the MEMS device may include top and bottom covers plates that are bonded to opposing surfaces of the silicon wafer by a "bonding mechanism" to hermitically seal the sensor or actuator device

mechanism. However, Smith does not disclose or suggest any sort of distance between the cover plates and silicon wafer. Thus, Smith does not disclose or suggest an optical MEMS having an intermediate structure layer (IL) that defines a distance (d) between an optically transmissive layer (UTL) and a device layer (DL) within a range of 10-1000 micrometers as presently claimed. Nor does Smith disclose or suggest a method of making an optical MEMS having such properties. Because the MEMS device and method of making a MEMS device disclosed Smith do not satisfy all of the limitations of claims 40 and 68, this reference cannot anticipate claims 40 and 68. Accordingly, Applicants respectfully request the rejection of claims 40 and 68, and all claims depending on claims 40 and 68, under 35 U.S.C. § 102(e) be withdrawn.

35 U.S.C. § 103(a)

The Examiner rejected claims 55, 57-59, 66-67, and 71 under 35 U.S.C. § 103(a) as being unpatentable over Smith (2003/0038327). Applicants traverse this rejection for the following reasons.

Claims 55, 57-59, 66-67 and 71 are dependent claims which depend on either claim 48 or 68. Claims 48 and 68, as amended, are directed to an optical MEMS and a method of manufacturing an optical MEMS whereby an intermediate structure layer (IL) defines a distance (d) between an optically transmissive layer (UTL) and a device layer (DL).

As noted above, Smith does not teach or suggest an optical MEMS having an intermediate structure layer (IL) that defines a distance (d) between an optically transmissive layer (UTL) and a device layer (DL) within a range of 10-1000 micrometers

as presently claimed. Nor does Smith teach or suggest a method of making an optical MEMS having such properties.

Furthermore, Smith's teachings are not directed to improving the optical properties of a MEMS device, but rather are directed to improving hermitically sealed MEMS devices by placing wire bond pads and a window aperture (which provides access for bonding electrical wire connections to the wire bond pads) external to the hermitic seal thereby preventing particulate contamination from entering the MEMS device during handling, testing or wire bonding operations. Nowhere does Smith teach or suggest the optical characteristics of an optical MEMS device can be improved through the use of a well defined distance between an optically transmissive layer and device layer.

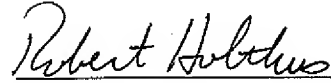
Nevertheless, Applicants have surprisingly found that the transmission quality of an optical MEMS can be optimized by defining the distance between the device layer and optically transmissive layer by an intermediate layer having a thickness within a range of 10-1000 micrometers. One of ordinary skill in the art, when reading Smith as a whole, would have no motivation to modify the teachings in Smith in this manner, or have any reasonable expectation that such a modification would even be successful. Since claims 48 and 68 are not obvious, all claims depending on claims 48 and 68 are also not obvious. Accordingly, Applicants respectfully request the rejections under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

It is respectfully submitted that the pending claims are patentable and are in a condition for allowance. Applicants respectfully request all pending claims be allowed and that the application pass to issuance. Should any fee be due in connection with the

filing of this document, the Commissioner for Patents is hereby authorized to deduct said fee from Huntsman Corporation Deposit Account No. 08-3442.

Respectfully Submitted,



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